Waukesha Water Utility's Conservation Plan

Conserving our Valuable Water Supply



Presentation Outline

- Waukesha Water Background
- Reasons For Water Conservation In The City Of Waukesha
- Trends And Future Projections For The Water Use In Our Community
- What We Are Doing About It.
 - We're Committed To Making A Difference
 - We're Committed To Water Conservation



OVERVIEW

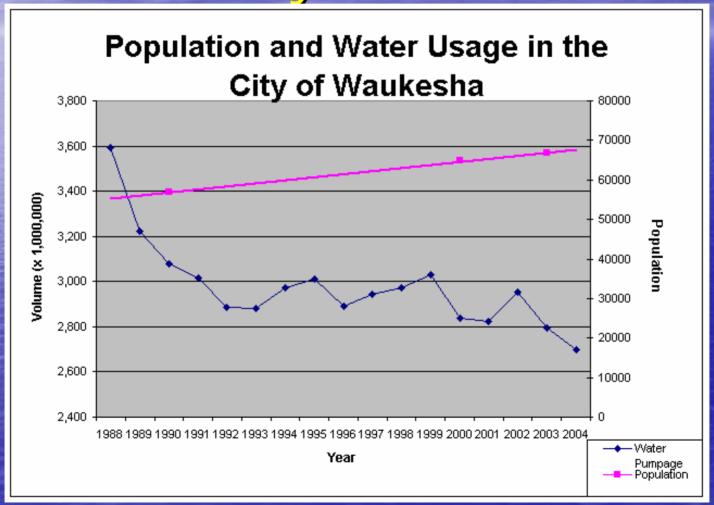
Population served (2005)Projected (2030)

67,000 85,000*

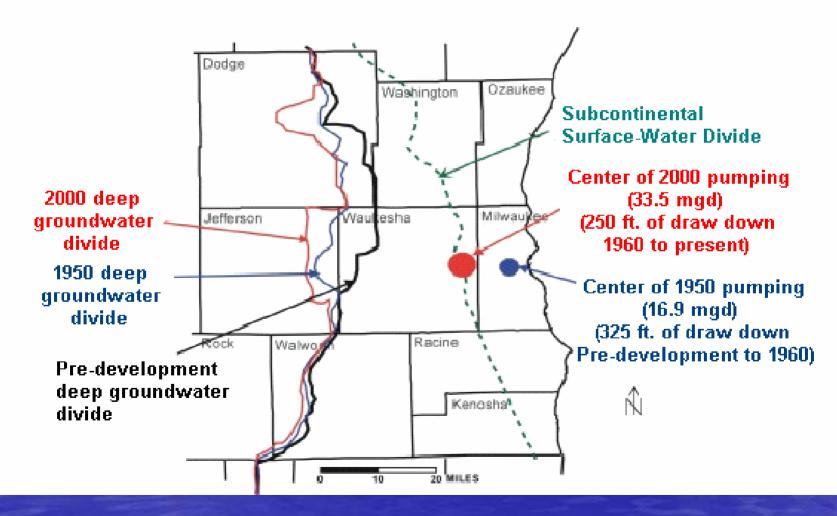
Average & peak demand (2005) Projected (2030)* ave day/max day7.8 mgd/12.9 mgd9.0 mgd/17.6 mgd

* Indicates values without conservation

Population and Water Usage in the City of Waukesha



Impacts of Pumping on the Deep Sandstone Aquifer



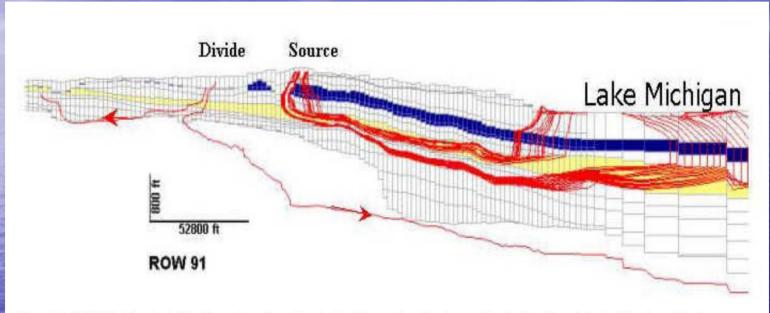


Figure 3. "USGS Model output: West-to-east sections showing locations and regional ground-water flow lines to Lake. Blue formation is Maquoketa shale. Yellow formation is St. Peter sandstone. East of divide all flow lines go from water table toward Lake Michigan." Source: D.T. Feinstein, U.S. Geological Survey, http://wi.water.usgs.gov/glpf/cs_nt_lk.htm

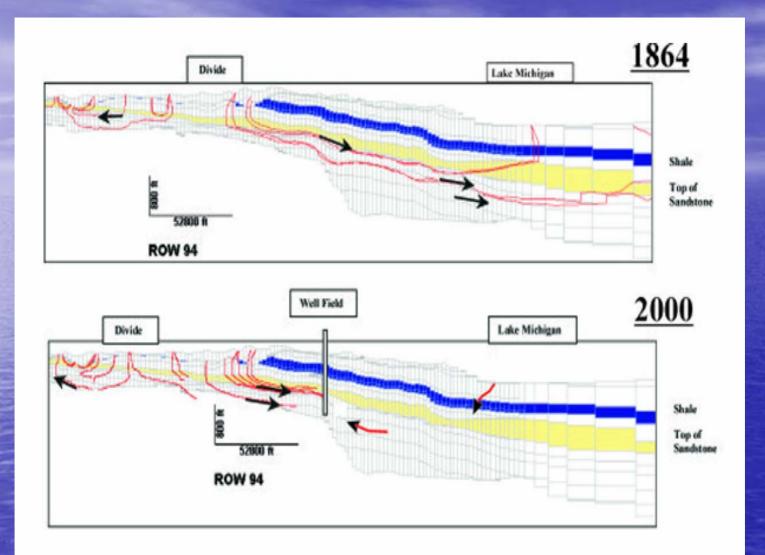


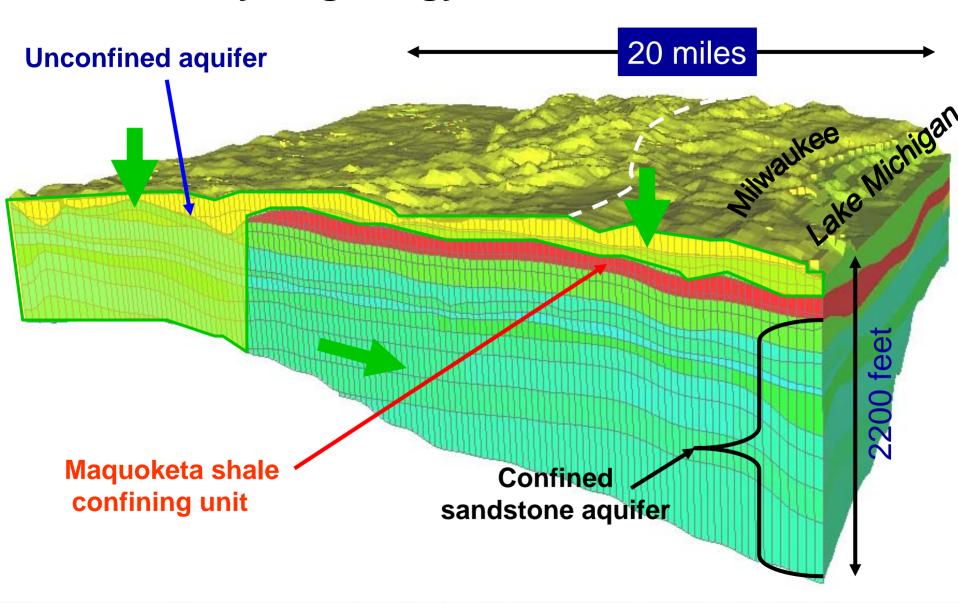
Figure 6. The effect of pumping on groundwater flow in the St. Peter Sandstone Aquifer. Source: United States Geological Survey,

http://wi.water.usgs.gov/glpf/cs pmp divides.htm

Policy

- Water Utility Policy
 - Comprehensive Water Conservation Plan
- State Policy

General Hydrogeology of Southeast Wisconsin



Southeastern Wisconsin Regional Water Supply Planning Program Overview And Challenges

Summary Of Public (Municipal) Water Use In The Southeastern Wisconsin Region By County: 2000

	Average Annual Water Uses										
	Residential Water Use			Industrial Water Use		Commercial, Institutional, Multi- Family Residential, and Miscellaneous Water Use		Other Municipal	Total Municipal Water Use		
County	Total (gallons per day X 1,000)	Per Person (gallons per capita per day)	Per Acre (gallons per acre per day)	Total (gallons per day X 1,000)	Per Acre (gallons per acre per day)	Total (gallons per day X 1,000)	Per Acre (gallons per acre per day)	Water Uses (gallons per acre per day)	Total (gallons per day X 1,000)	Per Person (gallons per capita per day)	Percent Unaccounted for Water
Kenosha Milwaukee Ozaukee Racine Walworth Washington Waukesha	5,619 51,942 2,570 7,804 2,565 3,488 11,404	61 70 64 61 57 66 60	836 1,282 581 832 474 724 506	1,926 30,462 1,999 10,235 1,270 1,287 3,720	2,362 5,320 4,123 7,482 2,023 1,843 1,239	3,160 35,413 808 3,666 1,764 1,405 7,308	828 1,516 424 818 574 471 646	2,451 30,561 198 3,625 651 231 661	13,156 148,378 5,575 25,330 6,250 6,411 23,093	119 160 123 175 111 96 102	12 7 14 12 16 13
Total Region	85,392	67	911	50,899	4,001	53,524	1,051	38,378	228,193	145	9

Source: Public Service Commission of Wisconsin and SEWRPC.

June 1, 2006

Waukesha Water Utility

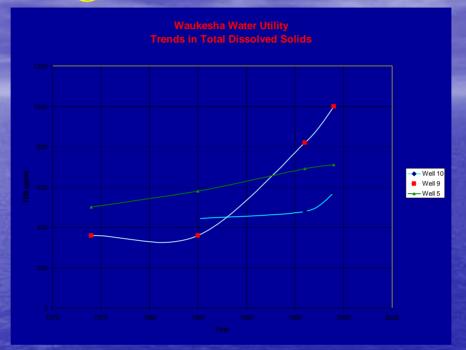
Reasons for Action

 Waukesha's aquifer continues to drop and recharges at a slow rate compared to unconfined aquifers that are recharged by shallow groundwater

Reasons for Action

The declining aquifers have led to higher concentrations of radium and other contaminants.

Mining of Aquifer is Causing Water Quality to Change in Some Wells



- •Heavy pumping is causing salinity to rise in some of the deeper wells
- •Dewatering part of the sandstone aquifer is causing nuisance bacteria problems
- •Continued dewatering may create problems with elevated arsenic similar to Lake Winnebago area

No matter what the source, our water must be protected."

Waukesha's Former Mayor Carol Lombardi

Mayor Larry Nelson publicly endorsed the water conservation and protection plan during his campaign.

Waukesha will be a Midwest leader in conserving and protecting water resources

Short Term Action Items

- Public Education
 - Website http://www.ci.waukesha.wi.us/WaterUtility/
 - Fifth Grade Water Education
- Ordinances

Water Conservation Ordinance was adopted by the City's Common Council on April 6, 2006

- 2 times/week sprinkling lawns from May 1 to October 1
- Watering permitted before 9 AM and after 5 PM on indicated days
- Working with County to form coalitions for Conservationincluding Energy Conservation
- Leak Audits

Mid Term Goals

- **Public Education**
- Incentives and Rebate Programs
- Billing Structure
- Ordinances
- Recycling "Gray" Water
- Water Audits
- Water Conservation Techniques and fixtures for Commercial Accounts
- Leak Detection

How Our Case Can Affect other Wisconsin Utilities

- Leading the charge for rates in Wisconsin
- Working with Utilities in the State committed to conserving
- Work to validate the business case.
- Become a resource to other utilities as they embark on conservation
- Decreasing Cone of Depression (Water Supply Issues)

Summary

- Waukesha Water has identified the need for Water Conservation
- Waukesha Water is Committed to reducing its water consumption
- Waukesha Water has a conservation plan
- Waukesha Water knows that it cannot accomplish its goals without help from:
 - Its citizens
 - Its neighboring communities
 - Waukesha County

Waukesha Water Utility

The Waukesha Water Utility is committed to providing high quality water to our customers in amounts which meet their needs and protect their health at a fair price.

Discussion

